

What is claimed is:

1. A vibration generating device of a small wireless machine with a vibrator integrally coupled to a rotating shaft of a motor, comprising:

an eccentric load portion,

a groove portion, for securing therein the rotating shaft, in the eccentric load portion,

side walls bulging from the eccentric load portion and forming both side edge portions of the groove portion,

wherein a portion of a tip portion end surface of the side wall except an outer peripheral portion of the side wall and at a side of the groove portion is caulked from an opening side of the groove portion to a bottom side, so that the vibrator is integrally coupled to the rotating shaft.

2. A vibration generating device of a small wireless machine with a vibrator integrally coupled to a rotating shaft of a motor, comprising:

an eccentric load portion having a truncated fan shape in which a center angle is less than 180° , so that it has a flat surface at a rotation center side,

a groove portion, for receiving therein the rotating shaft, on the flat surface,

side walls forming both side edge portions of the groove

portion,

wherein a portion of the flat surface except an outer peripheral side portion of the side wall and at a side of the groove portion is caulked from an opening side of the groove portion to a bottom side, so that the vibrator is integrally coupled to the rotating shaft.

3. A vibration generating device of the small wireless machine according to claim 1 ~~or 2~~, wherein a caulked portion is formed into a concave shape in the tip portion end surface or the flat surface by caulking from the opening side of the groove portion to the bottom side so that a length dimension at the side of the groove in an axial line direction becomes longer than a length dimension at the outer peripheral side.

4. A vibration generating device of the small wireless machine according to claim 1 ~~or 2~~, wherein in a width dimension W of the tip portion end surface or the flat surface from the side of the groove to the outer peripheral side, a range of 0.25 W to 0.9 W from an edge portion at the side of the groove is caulked.

5. A vibration generating device of the small wireless machine according to claim 1 ~~or 2~~, wherein the groove portion of the vibrator is formed to have such a size as to internally

contain a range exceeding a center angle of 180° of the rotating shaft, and an opening (width W_1 of the groove portion is set so that a ratio (W_1/D) to a diameter D of the rotating shaft of the motor is in a range of 0.70 to 0.95.

ADD A1

add
B1

SECRET